CD Jam

Software Project Management Plan

STORC Dashboard

CSc 190 – Spring 2015
4-17-2015

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1. INTRODUCTION

This is the Software Project Management Plan document for the STORC Dashboard Project sponsored by Dr. Michael Christensen.

This project is being undertaken by the CD Jam development team. The team is comprised of undergraduate students majoring in Computer Science at California State University, Sacramento. The team members are enrolled in a two-semester senior project course required of all undergraduate majors. Successful delivery of the desired software product will fulfill the senior project requirement for the student team members.

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1.1 Purpose

The Software Project Management Plan (PMP) explains how CD Jam intends to manage the development of the STORC Dashboard Project in CSc 190 and CSc 191. This document also describes the way in which CD Jam will layout the project, manage our time, and shows how CD Jam will handle setbacks.

1.2 Scope

This document provides a brief overview of the STORC Dashboard Project, explains expectations for team members in CSc 190 and 191, and communicates CD Jam's procedure to complete the project. The PMP will give an overview of CD Jam's project organization including the process model, organizational structure, and the responsibilities throughout the project. The PMP also explains CD Jam's technical processes, baseline scheduling, and resource allocation that are necessary for the creation of the STORC Dashboard Project. The contents within the PMP should not be interpreted as containing a complete set of agreed upon requirements for the STORC Dashboard Project, but a brief overview of the final goal of the project. It should also not be thought of as a finalized version of any of these topics as they may change throughout the process.

1.3 Definitions, Acronyms, and Abbreviations

1.3.1 Definitions

Aquaponics: A cycle between hydroponically grown plants and aquatic animals, in which the waste produced from animals supplies nutrients for plants which in turn purifies the water.
Biodiesel: A substitute for diesel created by a biological chemical reaction.
Dashboard: A collection of data laid out in an easy to read format represented in a graphical format.
Photovoltaic Cell: A device that delivers an electric current as a result of a chemical reaction from the rays of the sun.
Vermiculture: The cultivation of worms used for composting materials.

1.3.2 Acronyms

CSc – Computer Science
CSS – Cascading Style Sheets
CSUS – California State University, Sacramento
ECS – College of Engineering and Computer Science
HTML – Hyper Text Markup Language
IDE – Integrated Development Environment
MySQL – My Structured Query Language
PHP – Hypertext Preprocessor (scripting language)
PMP – Software Project Management Plan
SDS – Software Design Specification
SRS – Software Requirements
STR – System Test Report
STORC – Sustainability Technology Optimization Research Center
STS - Software Test Specification
UM – User Manual
WCM – Web Content Management

1.3.3 Abbreviations

CSc 190: Computer Science Senior Project - Part 1

CSc 191: Computer Science Senior Project - Part 2

1.4 References

Buckley, Robert. "Guide to Preparing the SOFTWARE PROJECT MANAGEMENT PLAN."*CSUS*. 10 Nov. 2014. Web. 12 Apr. 2015. <http://athena.ecs.csus.edu/~buckley/CSc190/SPMP.pdf>.

Buckley, Robert. *CSc 190-01 Senior Project: Part 1*. CSUS, Dec. 2014. Web. 22 February 2015. http://athena.ecs.csus.edu/~buckley/CSc190/CSc190.html

STORC. CSUS STORC. n.p. Web. 22 February 2015. http://www.csus.edu/storc/about.html

1.5 Overview of Contents of Document

In *Section 2: Project Overview*, the PMP includes the project description, deliverables, and the techniques used in team management. *Section 3: Project Organization* provides insight into several methods that CD Jam intends to use to manage and control the project through the STORC Dashboard Project development lifecycle as well as describes the organizational structure for CSc 190 and 191. *Section 4: Project Management and Control* discusses how CD Jam intends to measure progress, change and monitor schedules, validate and verify requirements, and describes the delivery process of the finish product to the sponsor. *Section 5: Technical Process* explains the process in which CD Jam collects information from the sponsor, provides a description of the teams documentation plan, describes how documents can be collaboratively edited (including version control), and establishes coding standards. *Section 6: Activities and Schedules* discusses how work will be accomplished, the estimated project budget, a baseline schedule, and the tasks and activities that need to be performed during the lifecycle of the STORC Dashboard Project. *Section 7: Approvals* contains the signatures of CD Jam and faculty advisor. This section will only be signed when all parties agree on the terms and conditions of the PMP.

2. PROJECT OVERVIEW

2.1 Project Summary

In order to develop the Dashboard and meet our sponsor's expectations, this project will undergo five phases during CSC 190 and seven phases in CSC 191. During the semester of CSC 190 the phases will be, in order, the Project Charter Phase, the Project Management Plan (PMP) Phase, the Features Wireframe Phase, and the Specification Requirements (SRS) Phase. Each phase must be completed before the team can start on the next phase.

The Project Charter Phase establishes the vision and scope of the project as well as develops and delivers a project charter document, which sorts these concepts for the sponsor and the faculty advisor.

The PMP Phase develops and defines a management plan to codify the system and method of managing the entire project.

The Feature Wireframes Phase develops visual prototypes of how the system will look and feel. These prototypes will be presented to the sponsor and further edited and refined to

solidify how the system will appear to all users. They will also be used as baselines during the design phase. These wireframes will be used in order to create software that looks and acts the way the sponsor expects.

The SRS Phase specifies, analyzes, and validates software requirement specifications. This phase finalizes the agreement between the team and sponsor regarding the capabilities, functions, and specifications of the final software product.

The Requirements Meeting Phase reviews CD Jam's understanding of the requirements to ensure they are sufficient in order to continue with the design process in CSC 191.

In CSC 191 the phases will be as follows:

The Architecture Design Phase develops the overall software architecture. It will lay out the composition, cohesion, and architecture of the system. A Software Design Specification Document will be developed during this phase. This document details all the design specifications to be used in the Code Implementation Phase.

The Features Wireframes phase develops visual prototypes of the final product. These designs will be the finalized versions of those developed in CSC 190.

The Code Implementation Phase develops the software requirements and design specifications into a final product. Code will be implemented by using the SDS document and agreed upon coding styles and methodologies will be used.

The System Test Specification Phase will be used to develop a System Test Specification Document. This document specifies the methods and expectations of a test of the completed product.

The System Testing Phase will be used to verify and test the software using the System Test Specification document. The results will be codified into a System Test Report Document, which will be used to track and fix bugs, as well as to document those bugs and errors that the Sponsor should be aware of.

The User Manual Phase will be used to produce a User Manual for the sponsor. This document will explain, using simple non-technical language, how to use all the features of the software. It must be a readable, accessible document that any user can refer to in order to competently use the system. It must be detailed enough to describe the use of every feature, but easy enough for someone unfamiliar with the system to understand.

The Delivery Meeting Phase will be used to deliver and present the final product to the Sponsor.

2.2 Project Deliverables

PHASE DELIVERABLE	PROJECT PHASE	Class
Project Charter	Establish the Vision and Scope of the Project	CSc 190
Software Requirements Specification	Elicit, analyze, specify, validate, and publish the requirement specifications	CSc 190
Software Delivery Materials (includes the User Manual and Delivery CD)	Prepare materials to be delivered to the sponsor at the final product acceptance meeting	CSc 191

2.3 The Management Plan and the Planning Process

To capture the sponsor's needs it is essential for CD Jam to continually follow and update the baseline plan. The baseline plan must be modified on a weekly basis in order to change faculty and sponsor requirements. When changes arise requiring a deadline modification the faculty advisor and CD Jam must agree on the new deadline. CD Jam uses timesheets that show the percentage complete, along with a baseline schedule that lists the estimate start and end dates. Once the baseline schedule has been updated with the new estimate start and end dates the faculty advisor will either approve or deny the new baseline schedule. To view the baseline schedule please see *Section 6.2: Schedule*.

3. Project Organization

3.1 Process Model

CD Jam will follow the process model outlined in *Figure 1* throughout the CSc 190 and CSc 191 development life cycle. The activities and supporting processes are represented by rectangles. The arrows represent the flow of information and deliverables from one activity to another. Once the team, faculty advisor, and sponsor have signed off on the Project Charter, CD Jam will create the Project Management Plan. This document will explain in detail how the work in all phases of the project will be monitored and managed. The remainder of CSc 190 will be spent creating the Software Requirements Specification Document. This document analyzes and clarifies the sponsor's needs and creates a document that serves as an agreement between CD Jam and the sponsor regarding the function of the software.

The first phase of CSc 191 begins with the Software Design Specification Phase. A Software Design Specifications Document will be created which will be continually revised along with the baseline code as CD Jam develops prototypes that appeal to the sponsor's needs. Test cases will be devised to test the robustness and functionality of the system throughout the software development cycle. When all code is complete, CD Jam will run test cases and the results will be documented in the STR. Finally, a delivery CD and a user manual will be created. This will be the final product to be delivered to the sponsor for sign off.

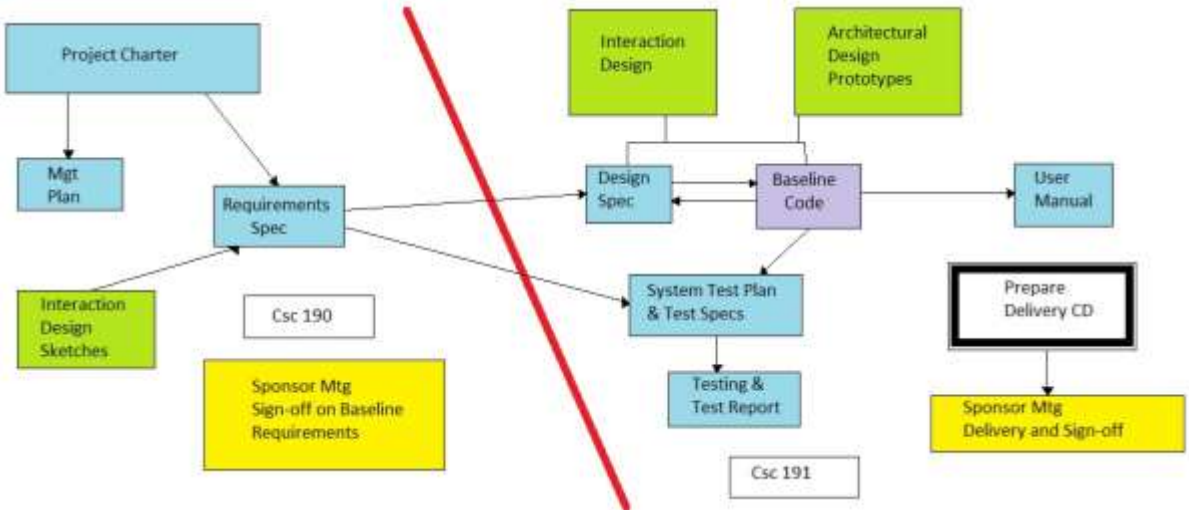


Figure 1: Process Model

3.2 Organizational Structure and Interfaces

The following identifies the project team members and the roles they will perform during the projects development life cycle.

Project Manager (CSc 190) - Ashley Gregory
Project Manager (CSc 191) - David Grapentine

The Project Manager will be in charge of designating tasks to other team members. They will coordinate meetings with the sponsor and faculty advisor. They are responsible for tracking tasks and controlling the schedule to ensure steady project development. The Project Manager will lead and attend all meetings, making sure each agenda item is covered effectively.

Software Engineers - David Grapentine, Ashley Gregory, Cole Culler, John Jones, Michael Smith

The Software Engineers are expected to provide weekly progress reports and hours worked to the project manager. They are to write and document code according to a consistent style and format. Software Engineers must submit bug reports and annotate all changes made to the code.

Faculty Advisor - Professor Ying Jin, Computer Science, CSU Sacramento

The Faculty Advisor will act as part of the quality control process and will meet with CD Jam on a weekly basis to monitor progress and suggest changes. Each deliverable must meet advisor approval before being submitted to the Sponsor.

Project Sponsor - Michael Christensen, STORC

Michael Christensen is the Director of STORC. The system is being developed for Michael and any professors and students involved with sustainability projects at STORC. All requirement specifications will be derived from the Sponsor's needs.

3.3 Project Responsibilities

In this sections project responsibilities are broken down by each major phase, followed by a description of work and activities associated with that phase. The initial assignments of phase leads are indicated next to the phase.

CSc 190

Phase 1: Project Charter – Initial Phase Lead: Ashley Gregory

The Project Charter, which outlined the scope, description, and understanding of the project for use by the CD Jam, Faculty Advisor, and Sponsor has been completed prior to the development of this document. This phase delivered a Project Charter Document to both the Sponsor and Faculty Advisor. The Phase Lead was responsible for organizing and ensuring overall progress of each team member's sections. The Phase Lead was also be responsible for assigning and/or reassigning document sections to each team member as needed.

Phase 2: PMP – Initial Phase Lead: David Grapentine

The Project Management Plan outlines the management plan for the entire project. It includes major phase schedules, team roles, team responsibilities, project tools and methods, and the project development lifecycle. The end product of this phase is a Project Management Plan Document, which will include this information. The Phase Lead will be responsible for organizing and ensuring overall progress of each team member's contributions to this document. The Phase Lead will also be responsible for assigning and/or reassigning document sections to each team member.

Phase 3: Features Wireframes – Initial Phase Lead: Ashley Gregory

The Features Wireframes Phase will be used to develop visual prototypes of the final product, in order to elicit feedback from the Sponsor to help develop project specifications, and the look and feel of the end product. These designs will also be revisited and used as a baseline for subsequent design phases in CSC 191. The Phase Lead will be responsible for organizing, assigning, and validating work on each wireframe, as well as delivering and presenting the wireframes to the sponsor during meetings.

Phase 4: Software Requirements Specification - Initial Phase Lead: Cole Culler

The Software Requirements Specification Phase will be used to develop an SRS document. This document describes the complete specifications of the software in terms of its purpose, functionality, and use. It codifies the purpose and details of what functions the software will have, who will use the system, and how the system will be managed. It fully articulates these details and serves as an agreement between the sponsor and the team. It will be used later in the design stage to implement these agreed upon specifications. The Phase Lead will be responsible for organizing and assigning document sections to team members, as well as validating work on these sections.

Phase 5: Requirements Meeting - Initial Phase Lead: Mike Smith

The Requirements Meeting Phase will be used to present and deliver the finished SRS to the sponsor and to the class. The Phase Lead will be responsible for leading this presentation as well as inviting the Sponsor to the presentation at the end of the semester.

CSC 191

Phase 1: Architecture Design - Initial Phase Lead: John Jones

The Architecture Design Phase will be used to develop the overall software architecture. It will lay out the composition, cohesion, and architecture of the system. A Software Design Specification Document will be developed during this phase. This document details all the design specifications to be used in the Code Implementation Phase. The Phase Lead will be responsible for organizing and assigning duties as well as validating team member's work.

Phase 2: Feature Wireframes - Initial Phase Lead: David Grapentine

The Features Wireframes phase will be used to develop visual prototypes of the final product. These designs will be the finalized versions of those developed in CSC 190. The Phase Lead will be responsible for organizing, assigning, and validating work on each wireframe, as well as delivering and presenting the wireframes to the sponsor during meetings.

Phase 3: Code implementation - Initial Phase Lead: John Jones

The Code Implementation Phase will be used to develop the software requirements and design specifications into a final product. Code will be implemented by using the SDS Document and agreed upon coding styles and methodologies will be used. The Phase Lead will be responsible for organizing, assigning, and validating member work.

Phase 4: System Test Specification - Initial Phase Lead: Ashley Gregory

The System Test Specification Phase will be used to develop a System Test Specification Document. This document specifies the methods and expectations of a test of the completed product. The Phase Lead is responsible for ensuring the document is produced according to the schedule, as well as being responsible for job assignment, organization, and work validation.

Phase 5: System Testing and System Test Report - Initial Phase Lead: Cole Culler

The System Testing Phase will be used to verify and test the software using the System Test Specification Document. The results will be codified into a System Test Report Document, which will be used to track and fix bugs, as well as to document those bugs and errors that the Sponsor should be aware of. The Phase Lead is responsible for ensuring the document is produced according to the schedule, as well as being responsible for job assignment, organization, and work validation.

Phase 6: User Manual - Initial Phase Lead: Mike Smith

The User Manual Phase will be used to produce a User Manual for the Sponsor. This document will explain, using simple non-technical language, how to use all the features of the software. It must be a readable, accessible document that any user can refer to in order to navigate through the system. It must be detailed enough to describe the use of every feature, but easy enough for someone unfamiliar with the system to understand. The Phase Lead is

responsible for ensuring the document is produced according to the schedule, as well as being responsible for job assignment, organization, and work validation.

Phase 7: Delivery Meeting - Initial Phase Lead: Ashley Gregory
The Delivery Meeting Phase will be used to deliver and present the final product to the Sponsor. The Phase Lead will be responsible for ensuring the delivery CD is produced according to specifications and within the schedule. They will also be responsible for leading the presentation.

4. PROJECT MANAGEMENT AND CONTROL

Progress Measurement
In order for CD Jam to successfully complete this project extensive planning has been done to determine an estimated timeline of completion dates. To keep this plan current each team member is responsible for reporting work they have completed and time spent working on their part of the project. Progress is measured on a weekly basis by the team lead. Progress is recorded on weekly timesheets which are submitted to Dr. Salem and the Faculty Advisor each week. If the baseline schedule needs to be adjusted a team meeting will be held in order to determine the new finish date. The new date will then be approved by the Faculty Advisor. In order to enforce and manage these schedules, a project lead will be appointed for each semester. The CSc 190 project lead will be Ashley Gregory. If she is unable to perform her duties David Grapentine will resume her roles. The CSc 191 project will be David Grapentine. If he is unable to perform his duties, Ashley Gregory will resume his roles.

Software Design Methodology
The methodology CD Jam will use is the waterfall method. This methodology will be used because it mimics the structure and design of a two semester senior design project. The waterfall method specifies that the verification and validation stages of the project will be completed before the design and implementation stages. However, CD Jam will continue verifying and validating sections of the project during the design and implementation stages, thus incorporating concepts from the prototype model as well.

Verification and Validation.
In order to verify the sponsors needs CD Jam will have multiple meetings with Dr. Christensen and other staff members of STORC to collect all of the requirements for the project. To verify that the product designed conforms to the requirement specifications, CD Jam will have develop a Software Testing Specification document, which will result in a Software Testing Result document. Based on these results, CD Jam will make any necessary alterations to the software. Once CD Jam has finished the project and Dr. Jin and Dr. Christensen have accepted our project, we will populate the database will real-time information and launch the website. Once the website has been launched Dr. Christensen will have access to the server and admin rights to the website.

4.1 Project Management Objectives and Priorities

This section explains CD Jam's goals, the objectives needed to achieve these goals, and priorities related to the various management activities that will be carried out throughout the development life cycle.

4.1.1 Team Goals

In order to meet all deadlines throughout CSc 190 and CSc 191 several goals have been established. Some of these goals include meeting with the group at least once a week and maintaining constant communication with the Sponsor and Faculty Advisor. Long term goals for CSc 190 include: completion of the Project Charter, completion of the Project Management Plan, completion of the Software Requirements Specifications document, completion of Features Wireframes that meet Sponsor's standards, and a final presentation for the Sponsor and class. Goals for CSc 191 include the completion of the Software Design Specification document, design of in-depth Wireframes that meet Sponsor's standards, completion of the System Test Plan and System Tests, implementation, testing and debugging of program, completion of the System Test Report, creation of a user's manual, and finally the creation delivery of a CD, containing the completed STORC Dashboard Project, to the Sponsor.

4.1.2 Frequency and Mechanisms

In order to adhere to the baseline schedule put in place, CD Jam will meet weekly to address any issues or concerns. In addition, Faculty Advisor meetings will be scheduled on a weekly basis to ensure quality and schedule adherence. Lastly, a minimum of twelve meetings, six in CSc 190 and six in CSc 191, will be scheduled in order to build a strong rapport with the Sponsor, acquire new requirements, and report any necessary changes that arise.

4.1.3 Project Log

Over the course of the development life cycle CD Jam will keep and manage a project log that will serve as the historical record of work. This provides an audit trail documenting decisions, accomplished work, and baseline changes. The project log includes the seven following sections:

1. Team Meeting Agendas & Minutes (minimum one per week)
2. Weekly Time & Status Reports (one per week)
3. Baseline Project Schedule (one worksheet for initial schedule & one worksheet for each change)
4. Faculty Adviser Meeting Agendas & Minutes (one per week)
5. Sponsor Meeting Agendas & Reports (one per sponsor meeting)
6. Technical Review Summary Reports
7. Baseline Change Requests (one for each change to the Baseline schedule)

CD Jam is responsible for maintaining the above listed documents over the course of the STORC Dashboard Project from beginning to end. The current status of the STORC Dashboard Project must be reflected in weekly updates and additions to the project log.

4.2 Assumptions, Dependencies, and Constraints

Both CD Jam and the Sponsor are working under several shared assumptions. It is assumed that the completed project will be computer code written in a standard language that can be read and understood by a third party familiar with that language. e.g. HTML, Javascript, MySQL, etc. CD Jam will not be writing or developing code in a completely new language.

This will allow for maintenance and portability by a third party after CD Jam has delivered the product.

It is assumed by both CD Jam and Sponsor that the product's computer code will be written in such a way that it can be understood and maintained by a third party after delivery of the product. It is also assumed that the final product will not require detailed technical knowledge or expertise on the part of the user. Since the final product will take the form of a web interface, it should be simple and easy to use for STORC employees.

Some project constraints pertain to the setup and project scope. Since the project requires data-gathering and processing from sensors that will be monitoring the various projects that STORC is researching, this infrastructure must be complete before work begins on the design stage. If the sensors and other control equipment have not been set up, a system designed to gather, process, and display information in an accessible and user-friendly way cannot be implemented. Both CD Jam and Sponsor agree that the scope will be limited to a system designed to collect, view, store, and manage data from various sources related to the current projects at STORC.

4.3 Risk Management

There are several potential problems that have been anticipated during the course of the project. These problems, their severity, and their mitigation are listed below.

Title: STORC sensors required for full Dashboard functionality.
Description: Currently the students at STORC are working to research, buy and install all of the sensors required in the STORC Dashboard Project. If sensors are not installed or do not send out data in the same way as the other sensors, issues can occur.
Project Impact Severity: High.
Mitigation: If the sensors are not installed during the code implementation phase CD Jam will create an alternate way of gathering data. If the sensors cannot output real-time data, CD Jam will attempt to read previously gathered sensor data from stored data files, which can be cataloged and stored in a database which the software can access. Another option would involve using students to input the data into the STORC Dashboard, allowing STORC to continue to collect data without the sensors.

Title: Unable to calibrate all sensors to pair up with our app.
Description: When adding a new project to the STORC Dashboard it is possible that the sensors for that project will be unable to connect with the application. This could result in an inability for the STORC Dashboard to show real time data from the sensors.
Project Impact Severity: Medium.
Mitigation: If a sensor is unable to connect with our application the calibration process with the STORC Dashboard may not be clearly understood by the technician. CD Jam needs to make this process easy to understand. In this case CD Jam needs to work closely with the students that are working on the sensors and understand how they are calibrating them.

Title: Application unable to show real time data right away.

Description: The STORC Dashboard may be unable to show real time data within a certain time frame. This may be a result of high latency due to network issues at the project site.
Project Impact Severity: Low.
Mitigation: The software should be designed to allow for high network latency. The software should be able to handle lag, and log and retrieve real-time data at a slower rate if necessary. Real-time data should not be lost if it cannot be displayed immediately.

Title: Unable to integrate our project with the CSUS WCM system.
Description: The CSUS Web Content Management system may not allow the use of our software. CD Jam's application may not be able to pair with the website directly.
Project Impact Severity: Low.
Mitigation: The application can be hosted on a different webserver, while still being integrated into the main STORC website.

4.4 Change Management

In order to process any changes or additions that need to be made to the process CD Jam will follow the following change control process.

1. Document the change or addition to the project
2. Evaluate the following with the change or addition for the project in a document
    a. Who proposed the change
    b. Is it an addition, subtraction, or change to already requirements in the project
    c. Does CD Jam require a meeting with the sponsor to make this decision
    d. List the type of change by category
    e. What will be its effect on the project
    f. Does this affect any deadlines
    g. Is this a reasonable change or not
    h. List any other findings
3. Have a team meeting to discuss the step 2 findings
    a. In this meeting it will be voted on whether the change is feasible
4. If CD Jam feels they need to voice their opinions or needs to the Sponsor regarding the change CD Jam will set up a meeting
5. If the change is passed it will be added to the list of requirements and noted that it was added on this date and why
    a. If the change did not pass then CD Jam will keep the document as is and explain why it did not pass along with the date this was agreed upon

4.5 Schedule Control

CD Jam will use weekly timesheets in order to compare the CD Jam's progress on a particular piece of the project to the baseline schedule. During weekly meetings CD Jam will calculate how much of the project has been completed and if an extension for any phase of the project is necessary. Since some of the tasks can be divided up between group members, weekly meetings will be held in order to delegate tasks to each member of CD Jam. Once work has been assigned it is each team member's responsibility to finish their assigned section(s). All documents must be completed on Google Docs, which will allow version control and progress monitoring.

NOTE. The baseline schedule is the initial estimate at how the major phases of work will be accomplished over the life of the project. Changes occur as the team modifies the work schedule to be consistent with the expected progress.

4.6 Issue Resolution

Technical documentation issues shall be resolved using a standardized system of problem reports. These reports will be managed and audited by each Phase Lead. Team members must complete these reports within one week of their submitted date. An exception to this rule shall be that during the Code Implementation Phase, the software versioning tool's built-in problem report system shall be used instead of the team problem report system, however, this documentation must be saved and printed for record keeping.

5. TECHNICAL PROCESS

5.1 Methods, Tools, and Techniques

All formal deliverable documents will be written and managed using a shared Google Drive account. The change control features within Google Drive will be utilized to help identify and track changes made to documents.

To represent various aspects of the STORC Dashboard Project a UML model will be constructed to show how different parts of the project interact. The requirements of the STORC Dashboard Project are represented in the form of an Entity Relationship Diagram (ERD). These models will be created using Photoshop or Microsoft Vizio.

CD Jam will use an IDE that supports HTML5 to write the majority of the source code. SQL lite will be used in the development of the MySQL database. More tools may be added if needed which will be determined in CSc 191.

5.2 Software Documentation

Software documentation deliverables will be divided into sections and assigned equally to each team member. In order to ensure tone and voice consistency CD Jam will appoint an editorial group. This group will read all documents before they are submitted to the Faculty Advisor. This group will be responsible for ensuring information accuracy, proofreading, adherence to style and flow requirements, and adherence to overall guideline requirements. Once the editing team has approved the document it will be submitted to the Faculty Advisor for approval. If the document does not meet Faculty Advisor standards, CD Jam will make any suggested changes and re-submit the document to the Faculty Advisor. If the document meets Faculty Advisor standards it will then be submitted to the Sponsor (if necessary). If the Sponsor wishes to have any changes made, CD Jam will edit and re-submit the document to the Sponsor. Once the Sponsor approves and accepts the document, the document will be considered complete and delivered.

Note: Some document deliverables do not require Sponsor approval and are not delivered to the Sponsor. In these cases only the Faculty Advisor approves and accepts delivery of the document.

5.3 Documents

DOCUMENTS	DOCUMENT PURPOSE AND CONTENT	ESTIMATED DELIVERY DATES	TEAM LEADS
Project Charter	Establish the Vision and Scope of the Project	3/19/2015	Ashley Gregory
Project Management Plan	Develop and define the project management plan	4/17/2015	David Grapentine
Software Requirements Specification	Elicit, analyze, specify, validate, and publish the requirement specifications	5/8/2015	Cole Culler
Software Design Specification	Design the software	10/4/2015	John Jones
The Software	Implement the software design specifications	11/1/2015	John Jones
System Test Plan and Test Cases	Develop and define the system test plan and specify all necessary test cases	11/1/2015	Ashley Gregory
Testing and Software Test Report	Perform system testing and publish the results	11/1/2015	Cole Culler
Software Delivery Materials (includes the User Manual and Delivery CD)	Prepare materials to be delivered to the sponsor at the final product acceptance meeting	12/4/2015	Mike Smith

Each document has a Team Lead who's responsible for ensuring the document is finished by the baseline schedule date. Every member of the team is required to be a Team Lead at least once to give all members in CD Jam experience in leadership. If one or several members of CD Jam are not contributing or cooperating during a documents phase, Team Leads are responsible for informing the Project Lead of this situation so it can be corrected as quickly as possible. Team Leads are also responsible for informing the Faculty Advisor of setbacks that will lead to the document not being finished by the original deadline.

6. ACTIVITIES AND SCHEDULE

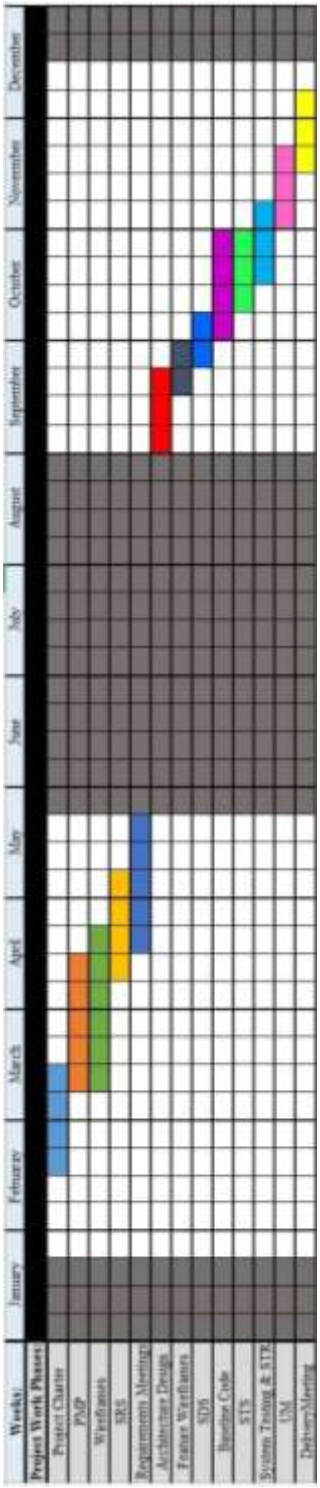
6.1 Activities and Tasks

Software Requirement Specification

Task Name	Baseline Duration	Baseline Start	Baseline Finish
Gather Requirements	Till finish of SRS	2/19/2015	4/21/2015
Write SRS	2 weeks	4/15/2015	4/29/2015
Team Reads, Reviews, and Revises	1 week	4/29/2015	5/8/2015
Draft 1 Review by Faculty Advisor	3 days	5/8/2015	5/11/2015
Revise	1 day	5/11/2015	5/12/2015
Final Draft Review by Faculty Advisor	3 days	5/12/2015	5/15/2015
Revise	1 day	5/15/2015	5/16/2015
Document Review & Approved by Sponsor	2 days	5/18/2015	5/20/2015
Prepare & Carry out Formal Sponsor Review of SRS	1 day	5/20/2015	5/21/2015

6.2 Schedule

Spring 2015 Semester (CSc 190 – Senior Project Part I)			
Phase	**Phase Description**	**Start Date**	**End Date**
Project Charter	Establish the Vision and Scope of the Project	2/22/15	3/19/15
PMP	Develop and define the Project Management Plan	3/15/15	4/17/15
Feature Wireframes	Quick sketches of the software interface and what it will look like	3/15/15	4/19/15
SRS	Elicit, analyze, specify, validate, and publish the Requirement Specifications	3/24/15	5/8/15
Requirements Meeting	Customer and Class presentation about the requirements	4/12/15	5/15/15
Fall 2015 Semester (CSc 191- Senior Project Part II)			
Phase	**Phase Description**	**Start Date**	**End Date**
Architecture Design	Design the initial system	8/31/15	9/13/15
Feature Wireframes	Quick sketches of the software and what it will look like	9/13/15	9/20/15
SDS	Design the software	9/20/15	10/4/15
Baseline Code (Design, Code, Integrate, & Test)	Implement the Software Design Specifications	10/4/15	11/1/15
STS	Develop and define the system test plan and specify all necessary test cases	10/4/15	11/1/15
System Testing & STR	Perform system testing and publish the results	10/18/15	11/1/15
UM	How to install and use the software	11/1/15	11/22/15
Delivery Meeting	Prepare materials to be delivered to the sponsor at the final product acceptance meeting	11/22/15	12/4/15


Weeks:
Project Work Phases
Project Charter
PMP
Wireframes
SRS
Requirements Meetings
Architecture Design
Feature Walkthroughs
SDS
Baseline Code
STS
System Testing & STR
UM
Debrief Meeting
January
February
March
April
May
June
July
August
September
October
November
December

6.3 Resource Requirements

Project Price					
Project Name	**Price per Page**	**Binding Cost**	**Estimated Number of Pages**	**Number of Revision**	**Document Total**
Project Charter	$0.69	$4.99	20 – 30	2 - 3	$37.58 - $77.07
PMP	$0.69	$4.99	20 – 30	2 - 3	$37.58 - $77.07
Feature Wireframes	$0.69	$0.00	5 - 10	2 - 3	$6.90 - $20.70
SRS	$0.69	$4.99	40 – 70	2 - 3	$65.18 - $159.87
Requirements Meeting	$0.00	$0.00	0	2- 3	$0.00
Architecture Design	$0.69	$4.99	20 – 30	2 – 3	$37.58 - $77.07
Feature Wireframes	$0.69	$0.00	5 – 10	2 – 3	$6.90 - $20.70
SDS	$0.69	$4.99	40 – 70	2 – 3	$65.18 - $159.87
Baseline Code	$0.00	$0.00	0	Unlimited	$0.00
STS	$0.69	$4.99	20 – 30	2 -3	$37.58 - $77.07
System Testing and STR	$0.69	$4.99	20 – 30	2 - 3	$37.58 - $77.07
UM	$0.69	$4.99	30 – 40	2 - 3	$51.38 - $97.77
Delivery Meeting	$0.00	$0.00	0	2 – 3	$0.00

The items shown above are the costs CD Jam will encounter throughout the CSc 190 and CSc 191. These costs include printing, backing, and binding of all documents required for CSc 190 and CSc 191. CD Jam will divide up the cost of each document equally between the team members once the document has been printed.

All costs calculated are based on current pricing from the FedEx Office website. Prices may vary.

7. APPROVALS

By signing you agree that all conditions and commitments to the project are accurate to the best of your knowledge. I certify that the information in this Software Project Management Plan is correct and the senior project group *CD Jam* can continue on with the design of the project. I also certify that I will follow and provide all needing requirements stated in this document and that I am willing to follow through with all conditions.

CD Jam Team members:

X _____
Cole Culler

X _____
David Grapentine

X _____
Ashley Gregory
Project Lead

X _____
John Jones

X _____
Michael Smith

Faculty Advisor:

X _____
Ying Jin
Faculty Advisor